ASSESSMENT RATIOS OF PERSONAL PROPERTY ON SELECTED KANSAS FARMS

by

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INTRODUCTION

Taxes on farm personal properties constituted 23.1 percent of the total farm property taxes in Kansas in 1949.[1] The ratio of the tax on farm personal properties to total farm property taxes in 1940 was only 13.17 percent.[2] Thus, from 1940 to 1949, the ratio of personal property for taxation purposes has increased 175 percent.

History of the Personal Property Tax

In the United States, the general property tax, both personal property and real property included, has been in existence since Colonial times. In the Colonial period, personal property came into importance as a source of taxation.

In the Massachusetts Bay Colony, in the seventeenth century, 60 to 65 percent of the direct taxes were obtained through taxes on property.[3] At that time, taxation of personal property was relatively more important than the taxation of real property. In accordance with this greater relative importance of personal property, Kendrick stated,

> The value of land was low and the number of expensive buildings was small. Most of the impost was on livestock which often yielded one-half and sometimes three-fourths of the revenue from property.[4]

In general, other English Colonies followed the precedent of the Massachusetts Bay Colony. Even though the first attempts were crude, they laid the foundation for the present system of personal property

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1 Ronald Bird, "Taxation of Personal Property Owned by Farmers in the United States, 1940-1949", Agricultural Finance Review, Volume 15, November, 1952, p. 38.

2 Loc. cit.

3 M. S. Kendrick, Public Finance, p. 93.

4. Loc. cit.

taxation.

In the United States, the personal property is still an important source of revenue. There has been a slow but steady increase, however, in the exemptions of personal property. This trend is making the general property tax depend more and more on real estate as the major source. The states of New York, Delaware, and Pennsylvania exempt all personal property.[1] Wisconsin is liberal in the exemption of personal property. Wisconsin exempts intangibles, household goods, motor vehicles, farm machinery, horses, and other miscellaneous items.[2] Many states exempt some portions of the valuations of household goods. These exemptions are not the same among states, however. An example of the range in exemptions is fifty dollars in North Dakota to one thousand dollars in Michigan.[3]

Definition of Personal Property

Personal property is one of the sub-divisions of general property. In a general sense, personal property includes all taxable property other than real property. Personal property has two sub-divisions, tangible and intangible. Tangible personal property is property that occupies space, has length, breadth, and thickness, and may be seen or touched.[4] Livestock, machinery, household goods, automobiles, and the

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1 Harold M. Groves, Financing Government, Revised, 1945, Henry Wolf & Company, Inc., New York, p. 59.
2 Loc. cit.
3 Loc. cit.
4 Kendrick, op. cit., p. 165.

like are tangible personal property. Intangible goods consist of legal rights to things of economic value.[1] Deposit credits, mortgages, stock certificates, copyrights, notes, and other items of that nature are intangible properties. Intangible property can be concealed and can be transferred geographically with relative ease. Because of the ease of concealment and transfer, many states have adopted laws treating intangible property differently than tangible property for taxation purposes.[2]

The tax rate[3] for property is determined at the local level of government. The general procedure for determining the tax rate may be expressed in equation form as follows:[4]

$$\frac{\text{Estimated expenditures - revenue from sources other than property}}{\text{Assessed valuation}} = \text{Rate of property tax}$$

The rate is commonly expressed in mills per dollar. Mills can be easily converted into a percentage. A tax of ten mills is equivalent to a one percent tax or $1.00 per $100.00.

Problem

The primary problem of this study was to determine if certain classes of farm personal property are assessed in accordance to Kansas Statutes.

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1 Kendrick, op. cit., p. 165.

2 See Statutes and Regulations for a discussion of the intangibles in Kansas.

3 The terms "tax rate" and "tax levy" as used in this thesis have the same meaning. Technically, the levy is the amount of money of a tax expressed in dollars and the rate is the percentage.

4 Kendrick, op. cit., p. 171.

Accurate assessment of properties is necessary for equitable taxation of properties. Inequality in assessment may take form in various ways. Two of these may be: (1) assessing property at only a fraction of the true value in money[1]; and/or (2) the assessor[2] may take an average of properties and apply that average to all properties assigned to him although a wide variation may exist in the true values of the properties. There is general evidence that the personal properties have not been assessed at true value. If the assessed valuations remain the same, the only way to increase the revenue is to raise the tax levy. Tax levies are limited by law so when a levy reaches the maximum, an increase in revenue will be increasingly difficult to obtain.

Purpose

Although several studies have been conducted regarding the assessment of real properties, little has been done with personal properties. The purpose of this study was to outline and partly test procedures that will aid in evaluating the present assessment practices.

The assessor is faced with the problem of valuing all properties assigned to him. Little aid is given him to help value individual properties at their true values. The assessor has considerable information to aid him in placing an average value on certain kinds of

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1 The term "true value in money" is explained in the section Statutes and Regulations.

2 The actual assessing agent is the deputy assessor. However, unless the term used is "county assessor", the term "assessor" means "deputy assessor".

properties. It must be remembered that uniform average assessment and assessment at true value are usually not the same. Assessment of property is intended to be 100 percent of the property's true value in money. Assessment at a percentage below 100 percent, for instance 50 percent of the true value, would result in equitable taxation but it would double the tax rate and would not be in compliance with the law.[1]

A handbook designed to aid assessment is available to assessors. It is used to aid assessment of durable items such as automobiles, trucks, tractors, combines, refrigerators, and the like. The handbook is called the Kansas Assessment Schedule and is commonly called the "blue book". The contents are compiled by the County Clerks' Association of the State of Kansas. It is not a State Commission of Revenue and Taxation publication. The handbook contains only average valuations. Its main weakness lies in the fact that all items may be assessed exactly by the "blue book" without giving due regard to condition, use, state of depreciation, and other conditions that will add or subtract from an average valuation.

Scope

This study was confined to comparisons of assessed values of personal properties of the same kind. An example of this is: comparisons of assessed values with true values of milk cows on different farms rather than a comparison of assessed values of milk cows with

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1 The laws concerning this problem will be discussed in detail in the Statues and Regulations section of this thesis.

assessed values of some other kind of personal property such as farm machinery. The scope was also confined only to farm personal property. The study dealt only with personal properties which were subject to the general tax levy.[1] The main emphasis had been placed on the first phase of the property tax system, the assessment phase. The scope of the study was limited, also, to selected farms in a north-central Kansas county and an eastern Kansas county.

Hypotheses

The hypotheses tested in this study are as follows:

1. Personal farm properties of the same kind were assessed at their true value in money.
2. Quantities assessed for taxation conformed with actual quantities on farms.
3. Assessors did not rely upon the average valuation as a guide for assessment of farm machinery.

These hypotheses were tested by means of ratios applied to the samples. The ratio was the relation between the assessed quantity or valuation and (1) the estimated true value, or (2) the quantity, or (3) the "blue book" valuation. The assessed quantity or value is always the numerator and the other figure is the denominator.

REVIEW OF LITERATURE

Most property tax studies have been concerned mainly with taxation of real property. The work on personal property taxation has been

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1 The only exception to this is the consideration given to the grain tax in Kansas. Grain is not subject to the general property tax. The grain tax is discussed in the Statutes and Regulations section of this thesis.

rather meager. Research on real estate assessment and taxation is valuable to studies of personal property assessment because both classes of property are concerned with many similar problems.

Eric Englund conducted the first agricultural experiment station study in the United States on the property tax.[1] In this study, the equality of the assessment among properties and districts was examined.[2] The findings, briefly, were:

1. The property tax tended to be regressive (small parcels of real estate were assessed at a higher percentage of the sale price than large parcels).

2. Inequality in assessment was more prevalent among individual parcels of farm real estate than the inequalities among counties.

Another study by Englund indicated the need for property classification in Kansas at that time.[3] Primarily, he was referring to the need for a reclassification of intangibles. The amendment to the Kansas Constitution which classified intangibles[4] had not been put to a vote. Englund believed that the amendment would be a step toward a more equitable tax system. His reasons for this belief were:

1. Less concentration of tax burden on property which cannot escape assessment as easily as intangibles.

2. Resident investors would not be penalized.

3. A lower rate of interest on loans would result.

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1 Eric Englund, "Assessment and Equalization of Farm and City Real Estate in Kansas", Kansas Agricultural Experiment Station Bulletin, No. 232, July 1924.

2 Loc. cit.

3 Eric Englund, "Reform in Property Taxation in Kansas", September 1924. A publication on file in the Department of Economics and Sociology, Kansas State College. (Printed, but publisher not given.)

4 Amendment to Article I, Section I, of the Kansas Constitution.

4. Double taxation would be lessened.

In November, 1924, two months after Englund's study was published, the amendment to the Constitution was passed.

Harold Howe conducted a study dealing with certain property tax problems in Kansas.[1] Two of the problems discussed were of benefit to this study:

1. Where the tax money comes from[2] (sources).
2. The principal taxes in Kansas.

A description of the general property tax was useful to this study. Three phases of taxation: assessment, collection, and equalization were discussed. A summary of the tax calendar was also included.

Howe and Miller reported on a study concerning problems of real estate taxation.[3] Information found in the section on the administration of the general property tax helped provide a background to study the legal aspects of the property tax. Discussing the assessment phase, Howe and Miller stated,

> Much depends on the man who acts as deputy assessor. If the importance of the function which he performs were more generally realized, more attention would be given to his special fitness for the job and he would be given greater recognition for his services.[4]

The National Association of Assessing Officers listed means by which the assessment of personal property might be improved.[5]

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1 Harold Howe, "The Taxation System of Kansas," Kansas Agricultural Experiment Station Circular No. 144, March 1929.

2 Ibid., p. 2.

3 Harold Howe and L. F. Miller, "Assessment and Collection of Farm Real Estate in Kansas", Kansas Agricultural Experiment Station Bulletin 283, April, 1939.

4 Ibid., pp. 9, 10.

5 "Final Report of the Committee on Principles of Assessment Practice", Assessment Principles, National Association of Assessing Officers, October, 1938.

Some of the suggestions mentioned were:

1. Each taxpayer should be required to accompany his property tax return with a copy of his income tax return.[1]

2. Lists of registered motor vehicles should be made available to the assessor by the registering agency.[2]

3. Domestic animals should be classified according to kind, grade and age.[3]

The importance of the assessor and his duties were stressed by the statement, "The discovery of personal property is one of the least satisfactorily performed duties of an assessor."[4]

The following discussion was also included:

> The assessor is constantly faced with the temptation to neglect his sworn duty to assess all taxable property according to the standard fixed by law. However commendable may be the motives of an assessor who succumbs to such temptation, they cannot be approved. By nullifying certain phases of the tax law, the assessor is effectively contributing to disrespect for other phases and other laws. He is substituting his own standards of justice for the collective will of the citizenry as expressed through its legislative delegates. If a law is really obnoxious to the public as well as to the assessor, the best way to effect repeal or amendment is by strict enforcement.[5]

McKay studied the history of property assessment in Kansas.[6] This survey was divided into different historical eras from 1854 until post World War II. In the latter part of the study, inequalities of assessment were examined. Considerable information was given regarding assess-

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1 Ibid., p. 75.
2 Ibid., p. 77.
3 Ibid., p. 89.
4 Ibid., p. 70.
5 Ibid., p. 32.
6 Jack F. McKay, "Property Assessment in Kansas," Bureau of Government Research, University of Kansas, 1950.

ment inequalities in real properties. McKay recognized the need for further study on personal properties as indicated by the statement, "There is no reason to conclude that assessment of personal property has been satisfactory from the standpoint of effective compliance with the statutes."[1]

A Kansas assessment ratio study was initiated to secure ratios of assessed valuations to market prices of real estate in each county.[2] To secure the information for the study, the Register of Deeds in each county was requested to furnish information on real estate transactions in his county. Some transactions of real estate were not included. Examples of such excluded transactions were sales between members of the immediate family, bankruptcy sales, tax sales, and similar sales that might not indicate true value. The value of the sales was determined by the amount of federal revenue stamps. Fifty-five cents in revenue stamps covers a range of $500. For estimation, the market price of the property was considered half-way between the maximum and the minimum to which a given amount of stamps apply. For instance, since $2.20 in stamps is the legal tax required on transactions for amounts from a minimum of $1501.00 to a maximum of $2,000.00 the best estimate of the market price would be $1,750.00.

Malone reported the following information obtained from the Bureau of Agricultural Economics' comparison of assessments against values (1945)

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1 Ibid., p. 96.
2 Kansas General Statutes, 1949, 79-1435 through 79-1438.

established by the census:

> In the West North Central States, excluding Minnesota, livestock was assessed at about 40% of census values and farm machinery at about 25%. The State of Kansas, where the assessment ratio was the highest in the country, assessed livestock at 65% and farm machinery at 40% of census values. The other classes of farm personality (excluding automobiles and harvested crops) represented about 3% of the total assessments but they could not be compared.[1]

The Bureau of Agricultural Economics' comparisons for 1950 in Kansas were: automobiles and trucks assessed at 76 percent of market value, other farm machinery at 32 percent, livestock at 46 percent, and real estate at 38 percent of market value.[2]

The techniques employed by the Kansas Assessment Ratio Study was similar to those suggested by the National Association of Tax Administrators.[3] They suggested a ratio study comparing market value of property and assessed valuation of the property.

In addition to the use of federal revenue stamps as a determanate of market value, they suggested the use of data from real estate publications and information from realtors.[4]

Some limitations of values determined by the use of federal revenue stamps were listed. Two such limitations were:

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1 Paul E. Malone, "The Assessment of Personal Property in the U. S.", a statement presented at the St. Louis Conference of the National Association of Assessing Officers, October, 1951.

2 Tyler F. Haygood, principal agricultural economist, Division of Agricultural Finance, BAE, USDA, A Letter to Professor W. H. Pine, December 10, 1952.

3 Malone, Loc. Cit.

4 E. I. Maynard and others, "Preliminary Report of the Committee on Sales Ratio Data and Guide for Assessment Ratio Studies," National Association of Tax Administrators, July, 1950, p. 6.

1. Some localities are lax in compliance with the federal stamp law. The result is the amount of stamps is less than that required.

2. In other localities, in order to give the appearance that the sale price was higher than it actually was, the transaction is "overstamped".[1]

Renne and Lord found inequalities among different size holdings of Montana farm land.

> A very definite relationship was found to exist between size of holdings as measured by value and the ratio of assessed value to sales value. It was found that the smallest holdings were most overassessed and the largest holding the most underassessed ..... the average ratio of assessed value to sales value for properties of less than $500 was 3.51 (very serious overassessment), while for properties of more than $10,000 the ratio was .62 (underassessment).[2]

The administration, levy, and rate of the general property tax were discussed by Kendrick.[3] A discussion on the justification of the taxation of property was included. Kendrick listed five major reasons for the continuance of the taxation of property.[4]

1. Ability to pay.

2. No substitute revenue available.

3. Repeal would be a gift to property owners.

4. Repeal would have the effect of raising the tax burden on other taxpayers.

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1 Ibid., p. 18
2 R. R. Renne and H. H. Lord, "Assessment of Montana Farm Land," Montana Agricultural Experiment Station Bulletin No. 348.
3 Ibid., pp 24, 25.
4 Kendrick, op. cit., p. 19.

5. Repeal would have a serious effect on local units of government.[1]

Property taxation problems of other states were discussed. Several studies dealing with assessment of real properties were reviewed. An important survey studied was the Silverherz report.[2] Silverherz found some real estate escaping taxation entirely. Techniques used for finding this inequality ranged from the use of tax maps made by aerial photography in Connecticut to comparison of the acreage of land in South Carolina listed by the Census with assessed acreages. A few of his findings were:

1. Assessment of rural property was often rigid. (Copying assessments each year from the previous rolls was one of the causes of such rigidity.)

2. Differences in assessment ratios in rural and urban property.

3. Instances where property owned by non-residents was assessed at a higher percentage of its worth than the more valuable property.

4. Evidence was found that indicated that the less valued property was assessed at a higher percentage of its worth than the more valuable property.

5. Numerous and broad inequalities were found in the assessment of individual property.[3]

According to Kendrick,

> Dr. Silverherz concluded that real estate is usually poorly assessed in this country though he recognized the

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1 In Kansas, for example, the main support of the primary and secondary schools was the local source which contributed 93.3% of the revenue (1945-46). Source: Alexander and Saylor, Secondary Education, p. 160.

2 Kendrick, op. cit., p. 194.

3 Loc. cit.

existence of good assessment in some districts, and the fact others were making improvements.[1]

A study by the Bureau of Business Research at the University of Kansas compared the 1950 census valuations of personal property of Kansas to the assessed valuations of the personal properties.[2] Some of the findings were:

> Cattle valuations constituted 16 percent of the total personal property tax base, while hog values were only one-half of one percent of the total.
>
> The coverage for the state of numbers for livestock was 89 percent; tractors 95 percent; combines 99 percent; and trucks 78 percent.

One of the problems covered was how the "blue book" values on automobiles were established. The following statement from the county clerk of Saline County answered this question.

> We used what you call the official Used Car Guide, put out by the National Automobile Dealer's Association which lists the average retail, average loan, and the average as is price and we, as a committee, decided to assess all cars and trucks at 60 percent of the as is price quoted in this book . . . These schedules set by the State County Clerks Association have always been approved by the State Tax Commission.[3]

Some investigations were also made regarding the assessment of intangibles. The disparity in assessing bank deposits was illustrated by the following statement.

> In 1950, the total assessment of intangibles in the state (Kansas) came to only 40 percent of the bank deposits alone, with a range between the counties from 16 percent to 65 percent.

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1 Kendrick, op. cit., p. 195.

2 An unpublished manuscript by the Bureau of Business Research, University of Kansas.

3 Letter to Keith Kelly, Research Assistant, University of Kansas, from T. R. Shedden, County Clerk, Saline County, Salina, Kansas

STATUTES AND REGULATIONS

The personal property tax was first adopted in Kansas in 1861. The administration of the tax was divided into two broad categories, the assessment and the collection. Assessment is by local assessors and collection is by the County Treasurer. The tax is due in November. However, payments may be made semi-annually, December and June, if the taxpayer desires. In Kansas, personal property is assessed annually and real property is assessed every four years.

Content of the Statement

The content of a personal property statement is described in Kansas General Statute 79-307:

> Such statement shall truly and distinctly set forth: 1. Horses, six months and over; 2. Neat cattle, six months and over; 3. Mules and asses, six months and over; 4. Sheep, six months old and over; 5. Hogs, six months and over; 6. Goats, six months and over; 7. Farming implements; 8. Wagons; 9. Pleasure carriages of every description; 10. Gold watches; 11. Silver watches; 12. Plate and jewelry; 13. Piano fortes; 14. Other musical instruments; 15. All interest on bonds of the United States; 16. All bonds and interest on bonds of any state, county, district, or municipality; 17. All other bonds, not exempt from taxation; 18. Stocks in any company or corporation; 19. Moneys; 20. Credits $____, legal deductions $____, balance taxable; 21. Average value of merchants' stock for preceeding year; 22. Average value of merchants' moneys and credits for preceeding year; 23. Average value of manufacturers' stock for the preceeding year; 24. Average value of manufacturers' moneys and credits for the preceeding year; 25. Aggregate value of all other personal property.

To Whom Property is Assessable

In Kansas, all persons of legal age and of sound mind must make

a personal property statement whether owning property or not.[1] Personal property is assessable to the owner or any representative of the owner who has the property in possession or under control.[2]

Time of Listing

The time of listing and valuation is as of the first day of March. The sale or transfer of a property after March first does not permit any person to omit that property from the listing although assessment has not occurred until after the sale or transfer.[3]

The situs of personal property has often been a point that has had to be clarified. Any personal property which is brought into a county of Kansas after the first of March and shall acquire situs before September first shall be assessed and placed on the tax role that year.[4]

If livestock that are usually maintained in Kansas are taken out of the state for a period of thirty days or more, they are subject only to proportional taxes for the time spent in the state.[5] Livestock that are usually maintained in a state other than Kansas are subject to only proportional taxes when maintained in Kansas for a period of thirty days or more. This statute applies only to livestock from states that are governed by similar reciprocal tax laws

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1 Kansas Statute, 79-301.
2 Kansas Statute, 79-303.
3 Kansas Statute, 79-309.
4 Kansas Statute, 79-313.
5 Kansas Statute, 79-316 b.

applicable to Kansas and does not apply in all other instances.[1]

Intangibles must be listed in the assessment district where the owner resides. Other personal property is to be listed and assessed in the district where located on March first. There are some minor exceptions to this, however; animals and farming implements shall be assessed in the district where usually kept, except in the following cases:

1. When moved to another county 60 days prior to March 1. This time, however, may be extended by the State Commission in the case of animals being moved because of drouth conditions. (When the property is out of the state only temporarily, the tax situs is in the original district).

2. In the case of animals in a pasture embracing several tax districts, the assessment shall be proportional according to the acreage of land in each district.

Intangibles

Prior to 1924, the Constitution of Kansas stated in Article I, Section I, "The legislature shall provide an uniform and equal rate of assessment and taxation." This article was amended in 1924 as follows: "The legislature shall provide for an uniform and equal rate of assessment and taxation except that mineral products, money, mortgages, notes, and other evidence of debts may be classified and taxed uniformly as to class as the legislature shall provide."

It is then assumed that different tax levies are allowable but the assessment rate (100 percent) is to remain equal for all proper-

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1 Kansas Statute, 79-316 c.

ties. Kansas Statute 79-501 states in accordance to the valuation for assessment purposes of real and personal properties,

> Each parcel of real property shall be valued at its true value in money, the value thereof to be determined from actual view and inspection of the property; but the price at which such property would sell at auction or forced sale shall not be taken as the criterion of such true value . . . . Personal property shall be valued at the usual selling price in money where the same may be held . . . .

In discussing this problem, Howe and Miller state, in their publication, "The duty of the deputy assessor is to assess all property subject to taxation in his district at its 'true value in money'."[1]

The lower levy on intangibles had almost an immediate effect on the value of intangibles listed by assessment. In 1924, an assessed valuation of $65,000,000 was listed for intangibles in Kansas. The next year, the first year in which intangibles were subject to a lower levy, the value of intangibles assessed increased to $191,588,739. This was an increase of 295 percent in one year. From 1925 to 1927 the levy on intangibles was 2 1/2 mills. In 1927 it was raised to 5 mills. The levy of 5 mills is still in effect in Kansas.

An important argument for the lower levy on intangibles is that it brought a great amount of intangibles out of hiding. Another argument for the lower levy was that intangibles were double taxed if subject to the same tax rate as tangibles.

Grain Tax

Prior to 1941, grain was taxed at the same levy as other personal

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1 Howe and Miller, op. cit., p. 9.

property. In 1941, the grain tax law (Kansas 79-3901 to 79-3910) was passed giving grain a lower tax levy, 50 cents up to 1,000 bushels produced and one-half mill per bushel over 1,000 bushels produced, for farmers. The law also applies to grain dealers; the dealer pays the same tax levy as the producer.

One argument for the lower levy on grain was that farmers were inclined to dispose of much of their stocks of grain just before March 1, the assessment date, and this extra heavy marketing depressed the market for a time. This does not appear to be the case, however. Table 1 shows that the eleven years prior to and including 1941 show very slight market changes in the prices received for corn and wheat by Kansas farmers.

As shown in Table 2, in the years following 1941, the market prices for corn and wheat showed only small rised after March 1.

Table 1. Average prices per bushel received by Kansas farmers for corn and wheat, 1931 - 1941.*

Year	Wheat		Corn	
	Feb. 15	March 15	Feb. 15	March 15
1931	.55	.55	.50	.48
1932	.37	.37	.28	.28
1933	.31	.44	.16	.17
1934	.69	.66	.39	.40
1935	.85	.92	1.00	.96
1936	.95	.89	.67	.68
1937	1.23	1.26	1.21	1.21
1938	.78	.72	.57	.56
1939	.55	.56	.43	.43
1940	.86	.92	.60	.61
1941	.68	.73	.54	.54
Simple Average	.71	.73	.58	.57

*Source: Price Patterns, Kansas State Board of Agriculture, pp. 40-41, 1950.

Table 2. Average prices per bushel received by Kansas farmers for corn and wheat, 1942 - 1949.*

Year	Wheat		Corn	
	Feb. 15	March 15	Feb. 15	March 15
1942	1.08	1.00	.74	.75
1943	1.21	1.22	.88	.92
1944	1.48	1.48	1.10	1.09
1945	1.47	1.49	1.00	1.01
1946	1.56	1.57	1.09	1.10
1947	2.02	2.45	1.24	1.60
1948	2.06	2.21	1.92	2.17
1949	1.92	1.99	1.15	1.23
Simple average	1.60	1.67	1.14	1.23

* Source: Price Patterns, Kansas State Board of Agriculture, pp. 40-41, 1950.

Family Exemption

An exemption of at least two hundred dollars per family to be applied to personal property has been granted by the Constitution of Kansas.[1] This exemption is not applicable to all taxpayers in Kansas. There must be proof that a home is being maintained.

The County Assessor

In most Kansas counties, the county clerk is the county assessor ex-officio. Full time assessors must be elected if the county population exceeds 65,000.[2] In counties with 65,000 population or less, a county assessor may be elected if it is petitioned by ten percent of the voters of the county.[3]

1 Kansas Constitution, Article 11, Section one.
2 Kansas Statute 19-401.
3 Loc. cit.

The county commissioners may appoint a full time assessor if the county has two hundred or more producing oil wells and has an assessed valuation of at least $100,000,000.[1] At the present time, only six counties in Kansas have full time assessors: Shawnee, Sedgwick, Wyandotte, Leavenworth, Bourbon, and Johnson.

The actual assessment of property during the assessment period (March 1 to May 1) is performed by the deputy assessor. The township trustee is the deputy assessor for the assessment district in which he was elected. The county assessor or county clerk where the clerk acts as assessor may, with the consent of the county commissioners, subdivide the territory in any township into two or more assessment districts if the territory is too large to be assessed by one assessor. The county assessor, or county clerk where the clerk acts as assessor, may appoint a deputy assessor in districts where no township trustee has been elected.

After the deputy assessor is through with assessment in his district, he is required to sign the following statement:[2]

> I, _____, deputy assessor for the _____ of _____, county of _____, state of Kansas, do solemnly swear that I have demanded from every individual, co-partnership and corporation within my assessing district the lists and schedules required by law, and have received such lists and schedules, according to law, from every person, co-partnership and corporation in my district. That I have carefully examined each of said lists and schedules as soon as the same were delivered to me, and have revised and corrected the said lists where necessary; that I have, to the best of my knowledge and ability, valued the personal property in said lists and schedules as required by law; that in no case have I knowingly omitted to demand a statement of the description and value of personal property in my said district, and

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1 Kansas Statute 19-402
2 Kansas Statute 79-1419

and that I have not knowingly omitted to perform my duty required of me by law, and have not in any way connived at any evasion or violation of any of the requirements of the law in relation to the listing and valuation of personal property. So help me God.

(Signed) _____ Deputy Assessor

Any county assessor or deputy assessor who knowingly or willingly lists any property other than at its true value in money shall be guilty of misdemeanor.[1] However, it appears that enforcement of this statute is lax. Training of the deputy assessor usually consists of informal instruction by the county assessor (or county clerk) prior to the assessment period.

THE GENERAL PROCEDURE

The general procedure employed in testing the hypotheses was comparisons of assessment numbers and values of livestock with survey or record book numbers and estimated true values;[2] assessment numbers and values in the case of machinery; and grain production as recorded in the record books and the survey was compared with grain production reported to the assessor. Scatter diagrams were also used to show comparisons. The standard deviation was used to determine absolute variations.[3] The coefficient of variation was employed to show relative variation. Regression and correlation coefficients also were used.

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1 Kansas Statutes 79-1426.

2 An exception to this was the comparison of assessed values and dairy receipts per cow made for the milk cows in farm records.

3 The means that 2/3 of the cases will fall within plus or minus one standard deviation.

Sources of Data

Complete identification of the sources of data for this thesis was not provided because confidence of the people providing the data was being maintained. Farm records in one county in north central Kansas were used as one source of data. The ending inventory for the year 1948 was used because summaries of the 1948 record books were more complete than the record books in the years following. The analysis included the value and the depreciation of each item of machinery and information concerning the value of each class of livestock. Twenty-two records were used for that county.

The cattle values in the record books were established at rates which were low for 1948. The reason for this procedure was to prevent increases or decreases in inventories from being counted as increases or decreases in farmer income. Comparisons of assessed values for milk cows was on the basis of the dairy receipts per cow.[1]

Machinery valuations in the record books were compared to assessed values. Total production of grain was taken from the crop production record in the record books. All acreage on the farm was accounted for in this record. Grain production in the record books was compared to assessed grain production. Assessment data were obtained for the farms from the county clerks office.

Data were obtained also from survey records for selected farms in an eastern Kansas county for 1951. One hundred and fifteen farms were included in the survey. For 21 of the survey farms additional

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1 The procedure of placing estimated values on beef cows is explained in the section Beef Cows - Farm Survey.

information on production was available which could be used to indicate values of dairy cows.

Sampling

The sample of farm records should not be interpreted as being a random sample; it included all of the records for that county. The farms in the survey were selected at random. The assessors statistical rolls were used and through random numbers a sample of 10 percent was drawn from each township. The sampling was stratified to the extent that farms over 70 acres were included. Farm interviews were used to obtain the information.

Analysis

Comparisons of personal property were made primarily through assessment ratios. Livestock comparisons were made with assessed values compared to estimated true values;[1] that is, $\frac{\text{assessed value}}{\text{estimated true value}}$. Assessed livestock quantities were also compared with the record book or survey quantities.

For the survey, assessed values of machinery were compared with the "blue book" values. For the farm records, assessed values of machinery were compared with record book values.

Assessed grain production was compared with the reported grain production.

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1 An exception to this is the comparisons of milk cows in the farm records. This comparison was $\frac{\text{assessed value}}{\text{dairy receipt}}$ per cow.

The measure of variation used to find the absolute variability from the average was the standard deviation. The standard deviation was computed for assessed values of milk cows in the survey and for the estimated true values of the same. The standard deviation was also computed for the assessed valuation of milk cows in the farm records and for the dairy receipts per cow.

The use of a measure of absolute variation such as the standard deviation is significant only in relation to the average from which the deviations are measured. Its use, apart from this average, is meaningless. Therefore, for comparison, absolute variations must be reduced to a relative form. The best procedure is to express the measure of variation in percentage of the average from which the deviations have been measured. The most commonly used measure of relative variation is the coefficient of variation.[1] The formula for this coefficient of variation is:

$$V = \frac{\text{Standard deviation}}{\text{Mean}} \times 100$$

The coefficient of variation was computed from the standard deviations of assessed values of milk cows for both sources of data. The coefficient of variation was also calculated from the standard deviation of estimated true values of milk cows for the survey farms and of the dairy receipts per for the farms with records.

Scatter diagrams were used to illustrate differences between:

1. Assessed numbers and survey numbers of beef cows.

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1 Frederick Mills, Statistical Methods, p. 156.

2. Assessed numbers and survey numbers of milk cows.

3. Total cow (both beef and milk) numbers assessed and total cows according to the survey.

4. Assessed numbers and record book numbers of beef cows.

5. Assessed numbers and record book numbers of milk cows.

6. Total cow (both beef and milk) numbers assessed and total cows according to the record books.

Regression lines and coefficients of correlation were computed for the assessed values and estimated true values and for the assessed values and dairy receipts per cow. It was thought that insufficient data were available to compute regression lines and coeeficients of correlation on beef cows.

Limitations

One limitation in this study was the difference in time of assessment and time of the record book information and survey information. The assessment date was always March 1. The record book information was for January 1. Therefore, there was a difference of two months between the two sources of information. The survey information was for May 1. The assessment date was March 1. Again, there was a difference of two months.

For grain production, this difference in dates was of no consequence. The crop production in the record books was for 1948. The assessed crop production also was for 1948. The crop production in the survey was for 1950 and the assessed crop production on these same farms also was for 1950.

Another limitation was the use of estimated true values rather than actual true values. In the surveys, values for livestock were not obtained. In the record books the value listed for livestock was low for 1948. There was evidence, however, that the annual butterfat production and/or dairy receipts per cow was an indication of a cow's true worth.

The limitations encountered in placing an estimated true value on beef cattle is discussed in the section on Beef Cows - Farm Survey. A study of assessment ratios of personal property might be improved if the person making the study could go with the assessor during the assessment period. Here, he could actually view the properties assessed and place a value on them. This would be a difficult procedure to accomplish because:

1. The assessor probably would object to another person accompanying him.

2. Taxation is a "touchy" subject with many farmers. Some farmers feel that even the assessor is intruding and might object to a study of this kind.

3. If objections one and two did not arise, the researcher would have to be skilled in placing values on property.

4. If both parties, the assessor and the farmer, knew such a study was being made, it would influence the normal procedure of assessment.

A larger sample could have been obtained by selecting from all the records available for Kansas. Objections to this would be:

1. A considerable outlay of funds would be required.

2. The sample still would not be random because the population from which the sample would be drawn would probably not be representative of all farms.

3. The sample would cut across many more taxing units.(townships)

ASSESSMENT RATIOS

Assessment ratios are used rather commonly in assessment studies. The technique is a useful one because it expresses briefly but concisely the degree of conformity between the assessed quantities or values and the comparative data. In most cases the comparative data is actual quantities or values. When the assessment ratio, comparing assessed numbers or values with actual numbers or values, is 100, the the assessed data and the actual data are the same; an assessment ratio of less than 100 indicates that assessment is less than actual numbers or values; a ratio of more than 100 means that the assessment is greater than actual numbers or values.

In this study assessment ratios were calculated for various classes of livestock, machinery and grain.

Dairy Cows - Farm Survey

The data used for comparisons of dairy cows in the survey were based on annual butterfat production per cow. From that information, the estimated "true" value of the cows was computed.

The average price of dairy cows for the county in which the survey was made was $235 in 1951.[1] It was estimated that the butterfat content of the milk would be approximately 4.5 percent. The average annual milk production per cow was 4,500 pounds.[2] Therefore, the approximate average annual butterfat production per cow would be 203 pounds (4,500 X 4.5 percent = 203).

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1 1951 Farm Facts, Kansas State Board of Agriculture.
2 Ibid., p. 83.

The formula used for computing the estimated true value was:

$$\frac{\$235 \text{ (average price of dairy cows)}}{203 \text{ (annual average butterfat production per cow}} = \frac{X(\text{estimated true value})}{\text{annual butterfat per cow in survey}}$$

The procedure was modified somewhat by attaching minimum values to some cows. On the basis of butterfat alone, some cows might be undervalued. An example of this would be a cow having a rather high value for slaughter but a relatively low value as a milk producer. Therefore, on the basis of breed and weight, the following minimum values were computed:

Jersey	-	$175
Guernsey	-	$185
Holstein	-	$200
Milking Short Horn	-	$200
Mixed Breeds	-	$185

A total of 242 dairy cows were listed for 21 of the survey farms.[1] Two hundred and twenty-one dairy cows from these farms were listed by the assessor. The aggregate assessment ratio for numbers of cows was 91.

The average assessment value per head was $123.80. The average estimated true value was $279.67. The aggregate average assessment ratio was, therefore, 44.

To find the degree of variation from the average assessment ratio, the standard deviation was used. The standard deviation (which measures absolute variation) was $10.44.[2]

1 Farms for which production information was available.

2 This would mean that approximately 2/3 of the cases would fall within plus or minus one standard deviation from the average,($113.36 to $134.24).

The measure of relative variation employed was the coefficient of variation

$$V = \frac{\text{standard deviation}}{\text{mean}} \times 100$$

For assessed values, the coefficient of variation was 8.4 percent. The standard deviation for estimated true values was $63.04. The coefficient of variation was 22.54 percent.

These show that the assessed values, while varying somewhat, were relatively more rigid than the estimated true values. Rigid assessed valuation often tend to overassess low value property and to underassess high value property (relatively). This may be illustrated by a comparison of two farms. One farm had the lowest estimated value for cows in the survey, $185, while the other farm had the highest value cows, $406. The cows on the first farm were assessed at $140, while the estimated true value was $185. The assessment ratio on this farm was 76. On the second farm the cows were assessed at $120, while the estimated true value was $406. Therefore, the assessment ratio was only 30.

A regression line was computed for the comparison of assessed value and estimated true values of milk cows. This is illustrated in Fig. 1. The slope of the line is indicated by "b". The "b" is equal to minus .0035. That is, for every hundred dollars, the estimated true value decreased by thirty-five cents. The coefficient of correlation, r = minus .0224, existed between assessed values and estimated true value.[1]

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1 For a perfect correlation, r would be equal to 1.

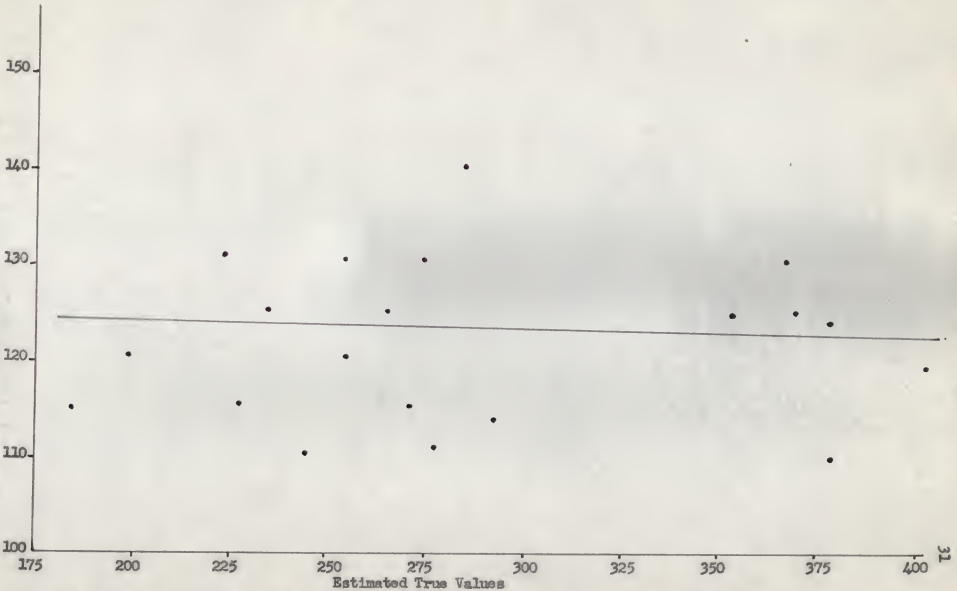

Fig. 1. Relationship between true values and assessed values of dairy cows on survey farms, 1951. ($b = -.0035$, $r = -.0224$)

An almost negligible part of the variations in assessed values was associated with true value difference. That part of the assessed value variations associated with true value differences was .05 percent.[1] It appeared that assessed values were relatively rigid for the survey farms and that assessed values were considerably below the true value on the average.

Comparisons were made to determine the assessed values of milk cows according to the breeds. Average assessed values of each breed are presented in Fig. 2. In general, it appeared that the breed may have been an influence in determining the value of the cows. Holstein cows usually have the highest value per head, and Holsteins were assessed the highest of the dairy breeds. Mixed breeds and Jersey breeds often have lower values compared with other cows. Mixed cows and Jerseys were assessed at relatively lower figures.

Table 3 shows the relationship between the number of cows on the farm and the assessed valuation of such cows. It appeared that, as the number of cows on the farm increased, so did the assessed valuation per cow. The range was rather small, however, ($14). The increased assessed value might be explained by the fact that the larger herds sometimes are composed of better quality cattle than are smaller herds.

(Table 3 is presented on the following page.)

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1 The coefficient of correlation squared (r^2) X 100 will give the percentage. This percentage is called the coefficient of determination.

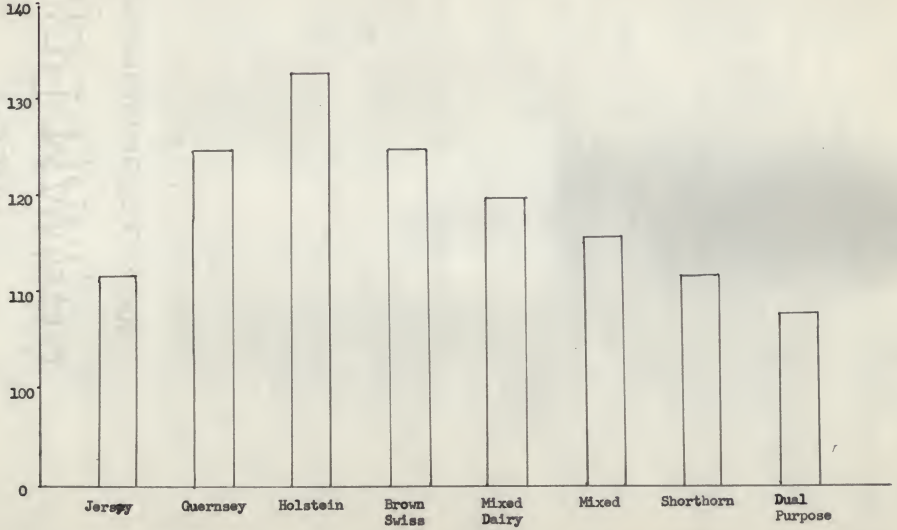

Fig. 2. Assessed valuations of the breeds of dairy cows for survey farms, 1951.

Table 3. Relationship between numbers and assessed values for cows on survey farms, 1951.

Number of cows on farm	Frequency	Average assessed value
0 - 3	29	$116
4 - 7	35	118
8 - 11	17	118
12 - 15	10	123
16 - 19	2	120
20 - 23	3	126
24 - 27	1	130

Beef Cows - Farm Survey

The total number of beef cows listed by the survey was 1,423 head on one hundred and fifteen farms. Only 797 beef cows were listed on the assessment rolls for the same one hundred and fifteen farms. Without further analysis, there would seem to be considerable disparity between the assessed numbers and the actual numbers of beef cows. However, some of the cows listed on the survey as beef cows probably were of dual purpose or mixed breeding. When cows of that type of breeding were assessed, the farmer probably listed some of those cows as dairy cows. In determining a value on the beef cows, only a fair estimate of the actual value has been made.

The Animal Husbandry Department at Kansas State College said that as a rough estimate the average beef cow in eastern Kansas would weigh

in the vicinity of 1,000 pounds. They also stated that the average quality of a beef cow in that area was only "fair".

The average price during May, 1951 (the survey was taken on May 1, 1951) for utility grade of cows on the Kansas City terminal market was $26.55 per hundred weight. In estimating a value on the beef cows two assumption must be made:

1. The 1,000 pounds was representative of the average weight of the beef cows, and the beef cows listed in the survey were typical of the cows in the area.

2. These cows would have been graded as utility on the Kansas City market.

With these assumptions, an average value of $265.50 per head was estimated (1,000 pounds X $26.55 cwt. = $265.50). The trucking fee to Kansas City would be approximately .35 per hundred weight or $3.50 per cow. Other costs would be about $2.00 per head. This leaves the market value at approximately $260 per head. The average assessed value for beef cows on the one hundred and fifteen farms was $122 per head. Using $260 as the true value, the aggregate average assessment ratio was 47.

Dairy Cows - Farm Records

Techniques used in comparing dairy cows for the farm records for the north central Kansas county were similar to those used for comparisons in the survey. The record included an annual dairy receipts per cow figure. This information was used as a basis for comparisons with assessed valuation. It was assumed that the amount of dairy receipts per cow was an indication of the market value of the cow.

A total of 258 dairy cows were listed in the record books. A total of 237 dairy cows from these same farms were listed in the assessment rolls. Therefore, the aggregate assessment ratio for numbers of cows was 92. The average assessed value per head of the dairy cows was $103.76. The annual average dairy receipts per cow was $321.33.

The standard deviation was found to be $24.50.[1] The coefficient of variation was used to find the degree of relative variation. The coefficient of variation was 23.6 percent for assessed valuations. The standard deviation for the dairy receipts per cow figures was 137.8 while the coefficient of variation was 42.9 percent. These findings show a considerable degree of relative rigidity of assessed valuations.

The cows on the farm which had the lowest dairy receipts per cow ($148) were assessed at $110 per cow. The cows on the farm which had the highest dairy receipts per cow ($650) were assessed at $100 each. The assessment ratio for the low producing cows was 74, and the assessment ratio for the relatively high producing cows was only 15.

The changes in one variable in relation to the other are shown by the regression line in Fig. 3. The slope (b) of the regression line is .0246. Therefore, for every hundred dollars dairy receipts per cow increased, assessed valuations increased only $2.46.

A relatively low coefficient of correlation was found to exist between assessed valuations and dairy receipts per cow. The coefficient of correlation was +.221. The coefficient of determination was

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1 Therefore, 2/3 of the cases will fall between $79.26 and $128.26.

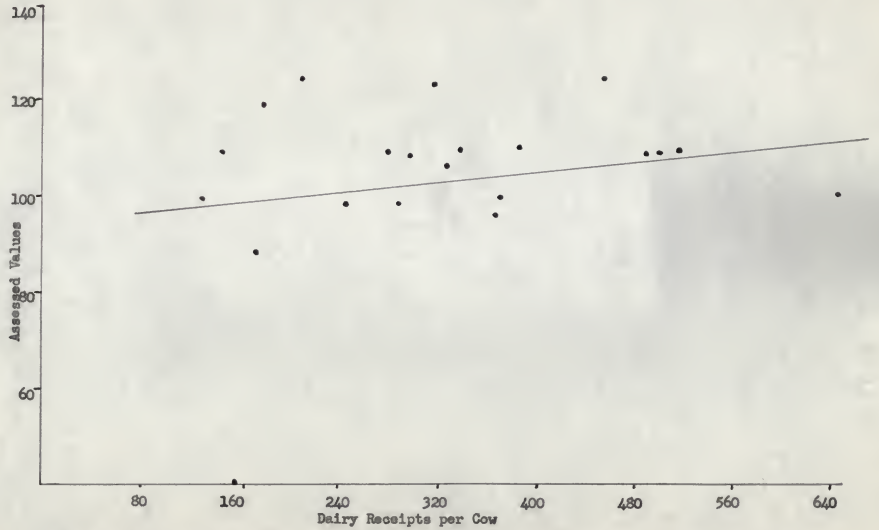

Fig. 3. Relationship between annual dairy receipts per cow and assessed values of dairy cows for selected farm records, 1949. (b = .0246, r = .222)

.05 or about 5 percent. This meant that 5 percent of the variance of assessed valuation could be accounted for. Since this left 95 percent of the variance to be accounted for by other factors it appears that the dairy receipts per cow were relatively unimportant in the determination of assessment values. Dairy receipts per cow varied considerably but the assessed values had a relatively small variance. Also, on the average, assessed values were low for the dairy cows.

All Cows - Farm Survey

When assessed numbers of beef cows were compared with beef cow numbers in the preceding section, a relatively wide range existed between assessed numbers and actual numbers. This relationship is illustrated in Fig. 4. It will be noted along the horizontal axis that many beef cows were listed on the survey but were not listed on the assessor's rolls. The same relationship was found in the scatter diagram for milk cows, (Fig. 5). However, according to Fig. 5, milk cows were listed on the assessment rolls and not on the survey. This can be noted on the vertical axis. When a comparison was made for all cows on the one hundred and fifteen farms the inequality between assessed numbers and survey numbers, while still being considerable, was lessened. This was illustrated by a scatter diagram which is presented in Fig. 6.

Other Livestock

Some investigations were made concerning the assessment of some of the other types of livestock. Comparisons were made for assessed

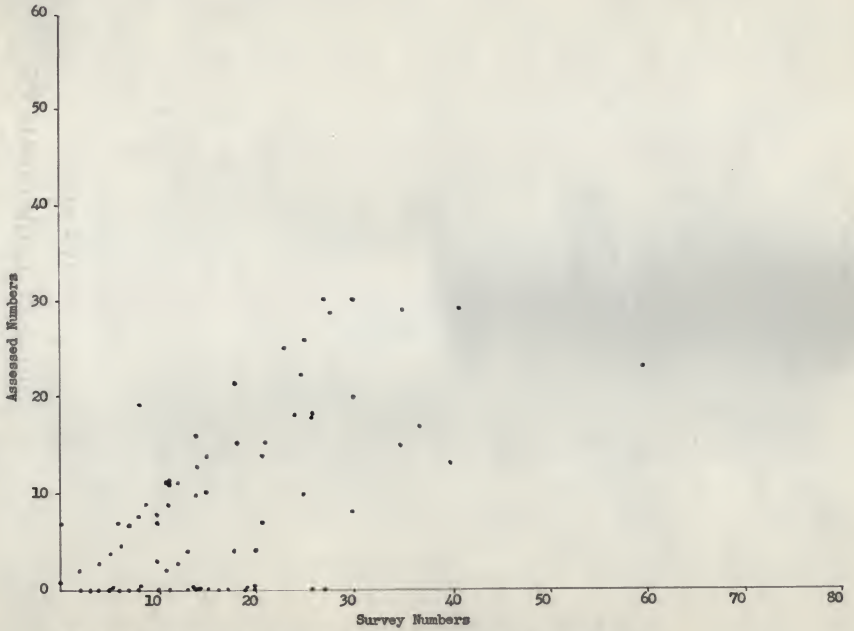

Fig. 4. Survey numbers compared with assessed numbers of beef cows, 1951.

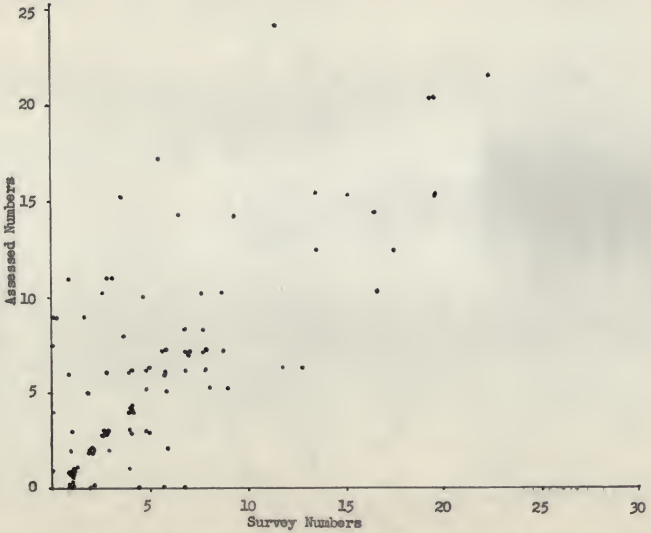

Fig. 5. Survey numbers compared with assessed numbers of dairy cows, 1951.

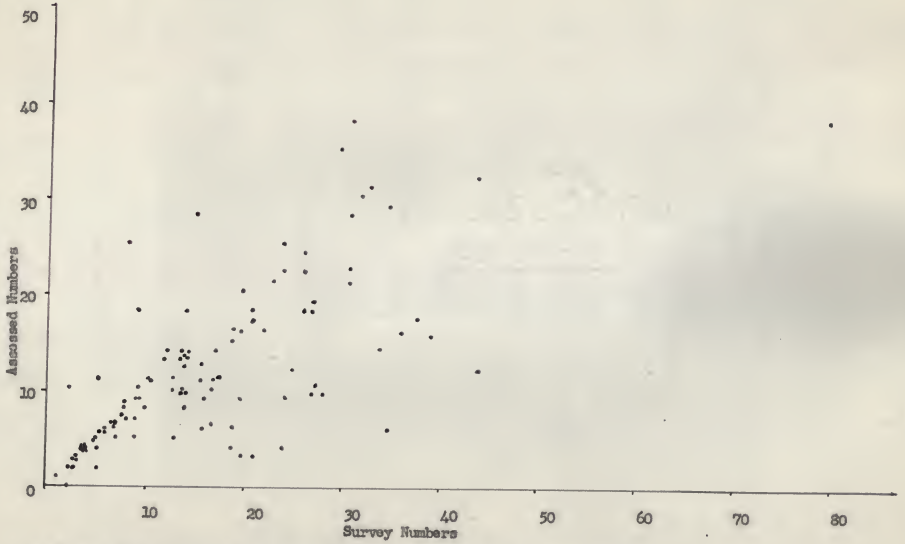

Fig. 6. Survey numbers compared with assessed numbers of all cows, 1951.

values and record book values of poultry and horses. The record book values for these types of livestock seemed to be good indicators of true values. Reasons for this probably were:

1. Poultry has a relatively fast turnover; therefore record book values would tend to be current.

2. Poultry and horses constitute a small portion of the livestock on most farms. Therefore, any increase or decrease in their values would make relatively small changes in the farmers income.

Assessed values and numbers and record book values and numbers for poultry were compared. On the assessment statement, poultry were listed in units of a dozen. The record book values for poultry averaged 90 cents per bird. This was approximately the same as the true value.[1] However, the poultry were assessed at an average of only 66 cents per bird. The aggregate average assessment ratio for values was 73.

The number of poultry listed by the record books was 3397, and the number of poultry on the assessment rolls for the same farms was only 2302. This was a difference of 1095 birds. The assessment ratio for numbers was 68. Poultry appeared to be assessed at less than true value and a considerable number were not being assessed at all.

Horses are becoming less important on farms each year. A total of 65 horses were recorded in the record books. Sixty-one head of horses were assessed on these same farms. The assessment ratio for horse numbers was 94. The average value per head according to the re-

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1 The 10-year average (1942-1951) value for chickens in Kansas was $1.09 per bird. Source: Annual Livestock Report, Office of the State Statistician, February 16, 1952.

cord books was $49.[1] The average assessed valuation was $34 a head; therefore, the assessment ratio for horse values was 69.

On personal property assessment statements, cattle, other than cows and bulls, were listed according to age and how they were being fed. The classifications were:[2]

Cattle: Six months old and under one year, rough fed
Six months old and under one year, full fed
One year old and under two, rough fed
One year old and under two, half or full fed
Steers, two years old and under three, rough fed
Steers, two years old and under three, half or full fed.
Steers, three years old and over, rough fed
Steers, three years old and over, half or full fed

The assessor is faced with the task of determining the ages of the cattle and how those cattle have been fed. It has cometimes been thought that a larger percentage of the cattle on farms were listed for assessment as rough fed than actually were rough fed.

In Kansas, the number of cattle, exclusive of cows and bulls, that were half or full fed ran about 12 to 16 percent of the total.[3] The assessors reported 632 head of cattle, exclusive of bulls and cows, for the farms with records. A total of 64 head were listed as being on half or full feed. Thus, slightly over 10 percent of the cattle were listed as being half or full fed. Exclusive of cows and bulls, 1311 head of cattle were assessed on the one hundred and fifteen farms surveyed in eastern Kansas. Of the 1311, only 64 head were

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1 The 10-year average value (1942-1951) for horses and colts in Kansas was $44.90 per head. Source: Annual Livestock Report, Office of the State Statistician, February 16, 1952.

2 Personal Property Statement, Form 2, items 3a through 3h.

3 Annual Livestock Report, Office of the State Statistician.

assessed as being half or full fed. This was about 5 percent of the total. This seemed to indicate that a larger than actual percentage of cattle were listed in the assessment rolls as being only rough fed.

Machinery - Farm Survey

Machinery numbers for the survey farms and the assessed numbers of machinery for the same farms were compared. The individual items of machinery used in the comparisons were: tractors, trucks, combines, and cornpickers.

Relatively small inequalities were found between assessed numbers or machinery and survey numbers. There were 136 tractors listed in the survey compared with 128 tractors listed in the assessment rolls. Fifty-eight trucks were assessed as compared with only 54 trucks listed by the survey. Sixty-four combines were assessed and 62 1/2 combines[1] were listed in the survey. A total of 23 cornpickers were listed both by the assessors and in the survey.

Whereas the actual numbers of machinery listed by the assessors appeared to be reasonably accurate, tractors were sometimes assessed as being older than actually was the case. Trucks, however, were generally assessed accurately according to age. In only one case was a truck assessed as being older than it was according to the survey. Instances of inaccuracy of assessment of tractors according to age prevailed on 20 farms of the total. The inaccuracies ranged from minus one year to minus six years. In four cases, assessed age was

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1 The 1/2 denotes half ownership.

greater than the age in the survey for combines.

The description of individual items of machinery on the personal property assessment statements was sometimes insufficient for accurate comparisons. For example, a combine might be listed on the assessment statement as : 1946, Allis Chalmers. This would not tell whether the combine in question had a forty-inch or a sixty-inch swath or whether it was powered by a motor or by the power take-off on the tractor. In such cases, where the information was meager, the assessment value was checked to find if it corresponded with any like value in the "blue book". However, most of the assessed descriptions were relatively complete.

Some of the items in the "blue book" were found to be misleading. Tables 4 and 5 show the "blue book" values for International tractors and Ford tractors. For International tractors, it was noted that the F12, F14, F20, F30, and 10-20 models were listed and assessment values for these models were from 1942 through 1951.[1] This could be misleading because the 10-20 and F series were discontinued in 1939.

In the section on Ford tractors, the 9N series had not been manufactured since 1946, yet the 9N series were listed through 1951. As the 9N series were listed at a lower value, the assessor might be inclined to list the lower figure.

The International and the Ford values were not the only values of machinery that were found to be misleading. Sometimes, a very tech-

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1 The F12 has not been manufactured since 1937.

Table 4. "Blue Book" Values of International Harvester Tractors.[1]

	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942
Farmall:										
"A" 329 & 330	$ 460	390	360	320	290	250	210	180	150	110
"AV"	620	530	480	430	380	340	290	240	190	150
Super "AV"	690	580	540	480	430	280	240	200	170	130
"B" 331 & 332	480	400	370	330	300	380	320	240	210	170
"C"	720	600	570	500	440	260	220	190	150	110
"Cub"	380	320	290	260	230	380	330	280	220	170
"H" Stl. Wh.	570	480	440	390	260	200	180	150	120	90
"H" Rub. trs.	900	760	690	620	560	310	260	220	180	140
"M" stl. Wh.	670	570	520	460	410	490	410	350	280	210
"M" Rub. trs.	1100	930	840	760	670	360	310	260	200	160
"MD" Stl. Wh.	1010	850	770	700	620	590	510	420	340	250
"MD" Rb. trs.	1520	1290	1160	970	940	550	480	390	320	230
F12 Stl. Wh.	380	320	290	260	230	820	700	580	470	360
F12 Rub. trs.	450	380	350	310	290	200	180	150	120	90
F14 Stl. Wh.	400	350	320	280	250	240	210	180	140	110
F14 Rub. Trs.	490	410	380	340	300	220	190	160	130	100
F20 Stl. Wh.	550	460	420	380	340	260	220	190	160	120
F20 Rub. trs.	640	550	500	440	390	300	250	210	170	130
F30 Stl. Wh.	670	570	520	460	410	350	300	250	200	160
F30 Rub. trs.	770	660	600	540	480	370	310	260	200	160
10-20 Stl. Wh.	590	500	450	410	370	420	370	300	240	190
10-20 Rub. trs.	710	600	550	490	440	320	270	230	190	140

[1] Kansas Personal Property Assessment Schedule, 1951.

Table 5. "Blue Book" Values of Ford Tractors.[1]

	1951	1940	1949	1948	1947	1946	1945	1944	1943	1942
9N Stl. Wh.	$ 430	370	330	300	260	230	200	170	140	100
9N Rub. trs.	470	390	370	330	290	250	220	190	150	110
2N Stl. Wh.	500	420	380	350	310	270	230	190	160	120
2N Rub. trs.	650	550	500	450	400	360	300	250	200	160
8N Rub. trs.	650	550	500	450	400	360	300	250	200	160

[1] Kansas Personal Property Assessment Schedule, 1951.

nichal listing of makes and models of machinery was listed in the "blue book". It might be doubted that most assessors would have the background to interpret such lists.[1]

Table 6 shows the assessed values of individual tractors and corresponding "blue book" values. Only those tractors from 1942 through 1951 were included. Tractors, and other machinery, manufactured before 1942 were not listed in the 1951 "blue book". "Value of all obsolete and older models than those listed (are) to be listed by (the) assessor."[2]

Of the 52 farms with tractors later than 1942, on 43 of the farms the assessed value and the "blue book" value were the same. There seemed to be a definite tendency for assessors, in these cases, to follow the "blue book" values. The procedure used to compare values of tractors was also used for the comparisons of trucks. Again, only 1942 through 1951 models were compared. Table 7 presents the data for trucks. On the 29 farms considered, the trucks on 18 of the farms seemed to be assessed exactly by the book values. The assessment values of the trucks on the remaining 9 farms showed only small variations from the "blue book" values.

Thirty-eight farms had combines, 1942 through 1951 models.(Table 8) The assessed value and the book values were the same for combines on 20 of the farms. On the remaining farms, assessed values of machinery varied only slightly from the "blue book" values.

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1 To interpret some of the listings for John Deer tractors, an interview was arranged with the local John Deere agency. Even the local agency had not heard of many of the models on the list.

2 Kansas Personal Property Assessment Schedule, 1951.

Table 6. Assessed Values and Corresponding "Blue Book" Values for Individual Tractors for Survey Farms, 1951.

Age, Make, and Model*	Assessed Value	"Blue Book" Value	Age, Make, and Model*	Assessed Value	"Blue Book" Value
48-J-B	$ 520	$ 520	43-I-H	$ 280	$ 280
46-C-VAC	240	240	50-AC-WD	390	390
48-MH	690	690	48-C-VAC	310	310
44-I-M	870	870	50-I-H	760	760
48-F			48-MM-101	590	590
49-F	500	500	46-I-H	490	490
48-F	450	450	49-I-M	1000	1000
46-I-M	1280	1280	44-AC-C		
49-I-H			46-O-60	440	440
50-F	550	550	45-F	220	220
46-C-VAC	240	240	49-I-M	840	840
50-AC-WD	780	780	49-F	500	500
50-I-H	760	760	46-J-B	320	320
49-J-B(S)	330	300	46-C-VAC	240	240
48-F	450	450	46-MM-101	890	890
49-J-B	410	410	45-AC-C		
47-F	450	400	45-I-H	410	410
50-F	390	390	50-F	800	910
46-F	250	250	46-F		
50-MM-Z	980	980	50AC-WD	1070	1140
50-J-B	650	650	47-F		
42-I-H	210	210	45-C-VAC	200	200
43-AC-WC	250	250	49-AC-WD	710	710
48-F	475	450	49-I-M	840	840
45-AC-WC	380	380	42-AC-C	100	100
44-AC-C	260	260	50-F	370	370
47-)-60	500	500	44-J-B	260	—
48-I-H	620	620	44-I-M	830	830
			45-I-H		
			43-I-H	290	280
			49-C-VAC	340	340

* AC - Allis Chalmers
C - Case
F - Ford
I - International
J - John Deere
MH - Massey Harris
MM - Minneapolis Moline
O - Oliver

Table 7. Assessed Values and Corresponding "Blue Book" Values for Individual Trucks for Survey Farms, 1951.

Age, Make,* Tonnage	Assessed Value	"Blue Book" Value	Age, Make,* Tonnage	Assessed Value	"Blue Book" Value
46-Ch-3/4	$ 450	$ 430	42-Ch-1½	$ 230	$ 210
47-F-1½	630	640	49-F-1½	580	580
50-G-½	550	610	48-Ch-½	500	500
49-F-1½	830	730	47-I-½	500	500
49-Ch-½	580	560	50-Ch-½	650	620
50-F-3/4	700	700	47-Ch-2	670	670
48-G-½	450	450	42-Ch-½	170	170
45-F-1½	490	440	49-St-3/4	640	640
50-Ch-3/4	670	670	49-Ch-3/4	610	610
47-F-1½	640	640	49-I-1½	840	840
42-Ch-1½	270	270	49-F-½	580	580
50-Ch-1	710	710	48-Ch-½	500	500
42-F-1½	250	240	50-Ch-½	620	620
42-Ch-½	190	170	49-Ch-1½	690	690
50-D-½	680	660			

* Ch-Chevrolet
D-Dodge
F-Ford
G-General Motors Company
I-International
St-Studebaker

Table 8. Assessed Values and Corresponding "Blue Book" Values for Individual Combines for Survey Farms, 1951.

Age, Make, and Model*	Assessed Value	"Blue Book" Value	Age, Make, and Model*	Assessed Value	"Blue Book" Value
45-MH-6'	$ 290	$ 240	45-C-6'	$ 420	$ 330
50-AC-5'	460	510	44-AC	310	310
48-J-6'	760	410	50-MH-6'	630	630
44-AC-5'	150	230	47-AC-5'	280	380
43-AC-5'	330	150	47-AC-5'	380	380
48-J-12a	580	520	50-AC-5'	600	510
50-J-12a	820	820	50-AC-5'	510	510
49-AC-5'	460	460	51-AC	600	600
42-AC-5'	400	140	50-MH	440	440
42-AC-5'	140	140	47-o-15	630	630
47-AC	380	380	47-AC	500	500
47-MM-8'	150	420	43-AC	190	190
49-J-12a	370	570	50-AC-5'	460	510
46-AC-5'	330	330	46-C-4'	190	190
45-AC-5'	90	280	48-AC-5'	560	560
44-MH-7'	290	300	50-AC-5'	680	680
49-J-12a	760	760	47-AC-5'	380	380
49-AC-5'	410	460	43-MH-6'	260	170
			49-MH-7'	400	600
			43-AC-5'	190	190

* AC - Allis Chalmers
C - Case
J - John Deere
MH - Massey Harris
MM - Minneapolis Moline

Cornpickers were also listed but insufficient information regarding age, make and model was available for comparison of assessed values and book values.

Machinery - Farm Records

Information in the record books concerning make, model, and age of farm machinery was not always complete. However, values were recorded in the record books for each item of machinery. Due to the insufficient data regarding age, make, and model, the machinery values were not compared with the "blue book" values.

The individual items compared were: tractors, trucks, combines, balers, and cornpickers. For all the machinery compared only slight variation existed between assessed numbers and record book numbers. The assessed numbers and record book numbers of tractors were the same, 29. Twenty trucks were listed in the record books and 18 trucks were assessed from the same farms. Fourteen combines were assessed and 14 combines were listed in the record books. Four balers were assessed and five balers were accounted for in the record books. Six cornpickers were recorded in both the assessment statements and in the record books. Although the numbers of farm machinery in the record books corresponded closely with the assessed numbers, considerable inequality existed between assessed values and record book values. Table 9 illustrates this disparity.

(Table 9 is presented on the following page)

Table 9. Record book values, assessed values and assessment ratios for machinery for farm records, 1949.

	Record Book Values	Assessed Values	Assessment Ratios
Tractors	$19,957	$10,605	53
Trucks	14,901	8,385	56
Combines	4,485	2,730	61
Balers	2,774	1,630	59
Cornpickers	3,376	1,835	54
Total	$45,493	$25,185	55

Grain

Since 1941 grain has not been subject to the personal property general tax levy. Grain is assessed in Kansas according to the amount harvested and not for the amount on hand on March 1. Grain is classified under the headings of wheat, corn, oats, barley, milo, or kafir, and all other grain.[1] The tax rate on grain is low;[2] therefore, inequalities between amounts of grain assessed and amounts of grain harvested are usually expected to be small.

The amount of grain assessed on the farms in the survey was 219,800 bushels. The total amount of grain harvested, according to the survey, was 306,987 bushels. Therefore, on the one hundred and fifteen farms surveyed, over 89,000 bushels of grain produced escaped assessment.

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1 See Table 10.
2 50 cents per 1000 bushels.

The assessment ratio for bushels assessed and bushels produced was 71. For the farms with records 73,935 bushels of grain were produced and 71,800 bushels were assessed. This shows an assessment ratio of 91.

Table 10. Assessment statement for grain produced.[1]

Producers Return

Wheat	No. Bu._____
Corn	No. Bu._____
Oats	No. Bu._____
Barley.	No. Bu._____
Milo or Kafir	No. Bu._____
All Other Grain	No. Bu._____
Total Bu. Harvested .	_____
Rate $	_____
Total Amt. Tax $	_____

1 Personal Property Statement for 1952.

SUMMARY AND CONCLUSIONS

The first hypothesis, personal farm properties of the same kind are assessed at their value in money, was not borne out by the findings of this study. Dairy cows in both the eastern and north central counties were assessed at only a fraction of the true value. Table 11 shows the assessment ratio to be 44 (survey farms) and 32 (farms with records). It appeared in both cases for dairy cows that true value or dairy receipts per cow had little influence upon the value at which the cows were assessed.

Beef cows in the survey were assessed on the average at only 47 percent of the true value (estimated).

The assessment ratio of poultry values in the farm records was 73. Horses were assessed at 69 percent of the record books valuations.

The items of machinery studies were assessed at low values compared to values recorded in the record books. The assessment ratios were: tractors, 53; trucks, 56; combines, 61; balers, 59; and corn-pickers, 54.

The second hypothesis tested was; quantities assessed for taxation conform with actual quantities on farms. In general this hypothesis held true to a greater relative extent than did the first hypothesis. Dairy cow numbers in the survey had an assessment ratio of 91, and dairy cow numbers in the farm records had an assessment ratio of 92. The number of beef cows in the survey had an assessment ratio of only 56 however.

According to this study poultry numbers were assessed at 68 per-

cent and horse numbers were assessed at 94 percent.

The assessment ratios for machinery numbers were relatively high in most cases.

In the survey the assessment ratio for tractor numbers was 94; for trucks, 107; combines, 102; cornpickers, 100. Assessment ratios for machinery numbers for the farms with records were; tractors, 100; trucks, 90; combines, 100; balers, 80; cornpickers, 100.

A considerable quantity of grain produced on the survey farms escaped taxation. According to the survey 306,987 bushels of grain were produced but only 219,800 bushels were assessed. The assessment ratio was 71. The assessment ratio for grain in the farm records was higher - 91.

The last hypothesis was: assessors did not rely upon the average valuation as a guide for the assessment of farm machinery. This hypothesis proved not to be true.

In the survey tractors[1] on 43 of the 52 farms (83 percent) were valued for assessment exactly by the "blue book" valuation. Sixty-two percent of the trucks[1] and 53 percent of the combines appeared to be assessed in the same manner.

The conclusions reached were:

1. Hypothesis number one was not true.
2. Hypothesis number two, while varying some was relatively valid.
3. Hypothesis number three was not true for most cases.

---

1 "Blue book" values were only for the years 1942 to 1951 inclusive.

Table 11. Summary of assessment ratios of personal properties for selected farms in north central Kansas (1949) and in eastern Kansas (1951).

	Assessment ratios	
	Numbers	values
I. Livestock		
A. Dairy cows - Farm Survey	91	44
B. Dairy cows - Farm Records	92	32*
C. Beef cows - Farm Survey (aggregate)	56	47
D. Other livestock - Farm records		
1. Poultry	68	73
2. Horses	94	69
II. Machinery		
A. Machinery - Farm Survey		
1. Tractors	94	-
2. Trucks	107	-
3. Combines	102	-
4. Cornpickers	100	-
A. Machinery - Farm Records		
1. Tractors	100	53
2. Trucks	90	56
3. Combines	100	61
4. Balers	80	59
5. Cornpickers	100	54
III. Grain		
A. Farm Survey	71**	-
B. Farm Records	91**	-

* Based on receipts per cow.
** Bushels produced.

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APPENDIX

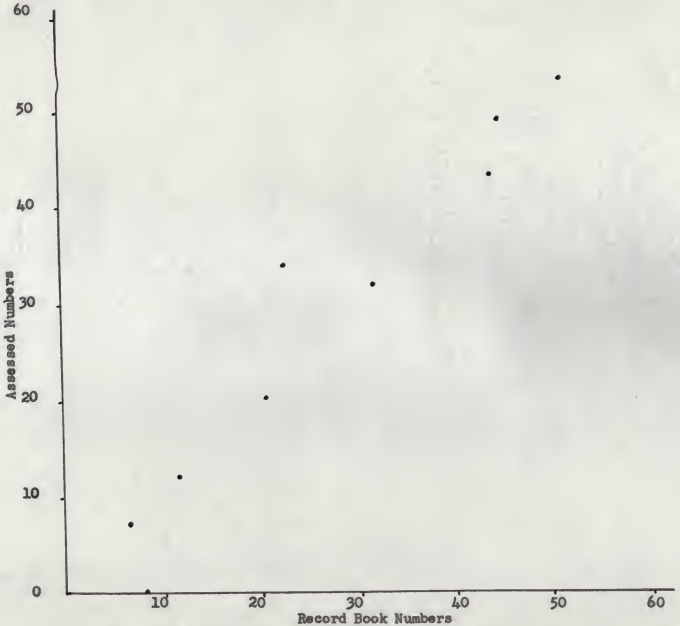

Fig. 7. Record book numbers compared with assessed numbers of beef cows, 1949.

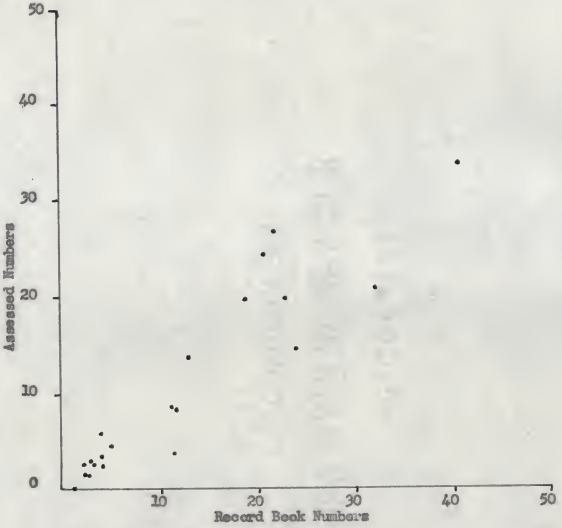

Fig. 8. Record book numbers compared with assessed numbers of dairy cows, 1949.

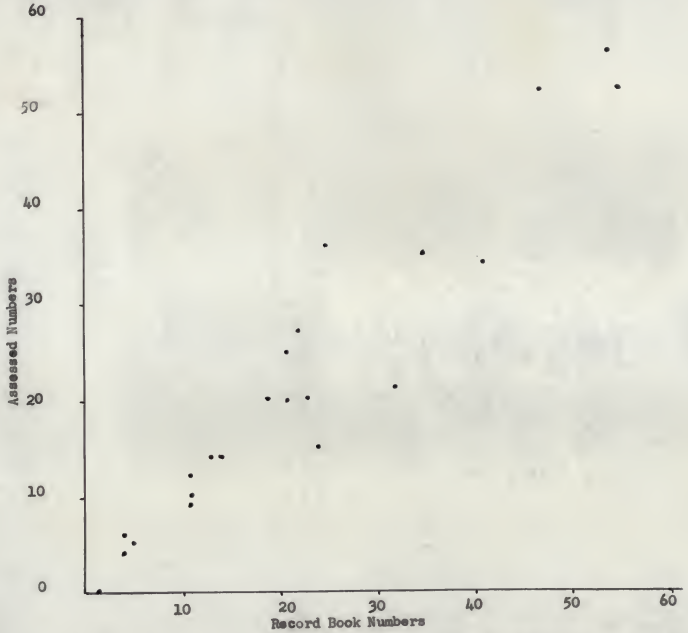

Fig. 9. Record book numbers compared with assessed numbers of all cows, 1949.

Table 12. Survey form used to collect assessment data for the survey farms.

PERSONAL PROPERTY STATEMENT
Selected Items

Name _____
Township _____

			Number	Value
1 AB	Horses	6 mos. up		
1 CD	"	Riding stock		
1 EF	"	Cripples & plugs & stallions		
2 AB	Mules	6 mos. up		
3 A	Cattle	6 mos. & under one year, rough fed		
3 B	"	6 mos. & under one year, full fed		
3 C	"	1 year old & under two, rough fed		
3 D	"	1 year old & under two, half or full fed		
3 E	"	Steers, 2 yr. old & under 3, rough fed		
3 F	"	Steers, 2 yr. old & under 3, half or full fed		
3 G	"	Steers, 3 yr. up, rough fed		
3 H	"	Steers, 3 yr. up, half or full fed		
3 IJ	"	Milk Cows		
3 K	"	Beef cows & heifers		
3 L	"	Bulls (not reg.)		
3 MNO	"	Registered Males No. ___ ♂		
		Females No. ___ ♀		
4	Sheep			
5	Hogs			
7	Poultry	Chickens _____doz. Ducks _____doz.		
		Turkeys _____doz. Geese _____doz.		
8 A	Farm Implements			
		Threshing machines and combines		
		Tractors, yr. _____ make _____		
		Other harvesting machinery		
		All other implements		
9	Harness & saddles			
10	Scales, cream separators, milking machines, dairy equipment, brooders			
11a	Automobiles	yr. _____ make _____ type _____		
	Station Wagons	yr. _____ make _____ type _____		
	Farm tractors & wagons			
16 D	Farm stocks,	potatoes, val/bu. _____ No. bu. _____		
16 E	" "	seeds, val/bu. _____ No. bu. _____		
16 F	" "	hay, prairie val/T._____ No. T._____		
16 G	" "	hay, alfalfa or clover, val/T._____ No. T._____		
16 I	" "	ensilage, C.S.M., cake, oil meal val/T._____ No. T._____		

Grain Harvested	
Wheat	_____bu.
Corn	_____bu.
Oats	_____bu.
Barley	_____bu.
Milo or kafir	_____bu.
All other	_____bu.
TOTAL	_____bu.

Machine	Make	Value
Tractor		
Truck		
Auto		
Combine		
Pick-up baler		
Corn picker		
Field cutter		
Blower		

ASSESSMENT RATIOS OF PERSONAL PROPERTY ON SELECTED KANSAS FARMS

by

Robert McLaren Finley

B.S., Kansas State College of
Agriculture and Applied Science, 1950

ABSTRACT OF

A THESIS

submitted in partial fulfillment of the
requirements for the degree

MASTER OF SCIENCE

Department of Economics and Sociology

KANSAS STATE COLLEGE
OF AGRICULTURE AND APPLIED SCIENCE

1953

Farm personal property taxes make up a large part of the total farm property taxes in Kansas. In recent years the ratio of personal property taxes to total property taxes has been increasing.

The primary problem of this study was to determine if certain classes of farm personal properties were assessed according to Kansas Statutes. The Statutes state that property is to be assessed at its true value in money. There has been general evidence that personal properties have not been assessed at true values.

Several studies have been conducted regarding the assessment of real properties but little has been done with personal properties. The purpose of this study was to outline and partly test procedures that will aid in evaluating the present assessment practices.

The farm personal properties examined were from selected farms in a north central Kansas county (farms with records) and an eastern Kansas county (survey farms). The classes of personal properties studied were dairy cows, beef cows, horses, poultry, machinery and grain.

The hypotheses tested in this study were:

1. Personal farm properties of the same kind were assessed at their true value in money.
2. Quantities assessed for taxation purposes conformed with actual quantities on farms.
3. Assessors did not rely upon average valuation as a guide for assessment of farm machinery.

Assessment ratios were used to test the degree of conformity between assessed quantities or values and the comparative data.

The first hypothesis, personal farm properties of the same kind are assessed at their value in money, was not borne out by the findings of

the study. Dairy cows in both the eastern and north central counties were assessed at only a fraction of the true value. The assessment ratio was 44 (survey farms) and 32 (farms with records). It appeared in both cases for dairy cows that true value or dairy receipts per cow had little influence upon the value at which the cows were assessed.

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The assessment ratios for machinery numbers were relatively high in most cases.

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A considerable quantity of grain produced on the survey farms escaped taxation. According to the survey 306, 987 bushels of grain were produced but only 219,800 bushels were assessed. The assessment ratio was 71. The assessment ratio for grain in the farm records was higher—91.

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In the survey tractors on 43 of the 52 farms (83 percent) were valued for assessment exactly by the "blue book" valuation. Sixty-two percent of the trucks and 53 percent of the combines appeared to be assessed in the same manner.

The conclusions reached were:

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